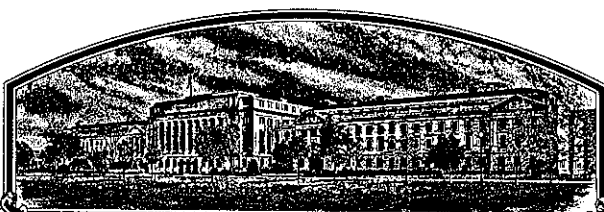


No.

8500196



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Mubrizol Genetics, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY, AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT T. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'5469'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D. C. this 29th day of September in the year of our Lord one thousand nine hundred and eighty-nine.

Attest:

Kenneth H. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Clayton Yeutter
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

FORM APPROVED: OMB NO. 0581-0055

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

1. NAME OF APPLICANT(S) LUBRIZOL GENETICS INC. AgriGenetics Research Associates Limited		2. TEMPORARY DESIGNATION 5469		3. VARIETY NAME 5469	
4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) 3375 Mitchell Lane 24900 LAKELAND BOULEVARD Boulder, Colorado 80301 WICKLIFFE, OH 44092		5. PHONE (Include area code) (303) 443-5900		FOR OFFICIAL USE ONLY PVPO NUMBER 8500196	
6. GENUS AND SPECIES NAME Triticum aestivum		7. FAMILY NAME (Botanical) Gramineae		FILING DATE Aug. 5, 1985 TIME 11:00 <input checked="" type="checkbox"/> A.M. <input type="checkbox"/> P.M.	
8. KIND NAME Hard Red Winter Wheat		9. DATE OF DETERMINATION August 1984		FEES RECEIVED AMOUNT FOR FILING \$1,800 DATE 8/5/85 AMOUNT FOR CERTIFICATE \$200.00 DATE Sept. 15, 1989	
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Colorado Limited Partnership CORPORATION				12. DATE OF INCORPORATION	
11. IF INCORPORATED, GIVE STATE OF INCORPORATION NEVADA					
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS Jim Gilchrist LORANCE L. GREENLEE Route 2, Box 247 ELLEN P. WINNER Scott City, KS 67871 GREENLEE AND ASSOCIATES 5370 MANHATTAN CIRCLE, SUITE 201 BOULDER, CO 80303 PHONE (Include area code): (303) 499-8080 (316) 872-7201					
14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED					
a. <input checked="" type="checkbox"/> Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)					
b. <input checked="" type="checkbox"/> Exhibit B, Novelty Statement.					
c. <input checked="" type="checkbox"/> Exhibit C, Objective Description of Variety (Request form from Plant Variety Protection Office.)					
d. <input checked="" type="checkbox"/> Exhibit D, Additional Description of Variety.					
e. <input checked="" type="checkbox"/> Exhibit E, Statement of the Basis of Applicant's Ownership.					
15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act.) <input type="checkbox"/> Yes (If "Yes," answer items 16 and 17 below) <input checked="" type="checkbox"/> No					
16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> Yes <input type="checkbox"/> No			17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> Foundation <input type="checkbox"/> Registered <input type="checkbox"/> Certified		
18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.? <input type="checkbox"/> Yes (If "Yes," give date) <input checked="" type="checkbox"/> No					
19. HAS THE VARIETY BEEN RELEASED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES? <input type="checkbox"/> Yes (If "Yes," give names of countries and dates) <input checked="" type="checkbox"/> No					
20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable. The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF APPLICANT James A. Gilchrist				DATE 7-24-85	
SIGNATURE OF APPLICANT				DATE	

14A: Origin and Breeding History of '5469'

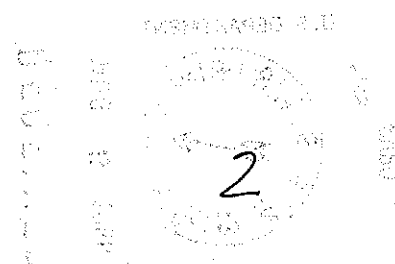
Pedigree: Red River 68/SR1900

SR1900 is a brown chaff semidwarf winter wheat selected from an interspecific cross.

'5469' was derived from a single plant selection in the F10 generation.

'5469' is a brown chaff semidwarf hard red winter wheat. Chaff color is similar to Plainsman V. '5469' does not have the resistance to soil borne mosaic virus that Plainsman V has.

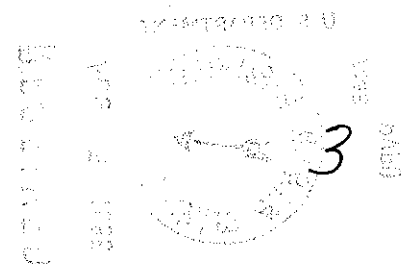
'5469' appears stable and uniform through the seed increase program. Tall offtypes occur at a rate of approximately .01% and white chaff offtypes occur at a rate of approximately .01%.



8500196

14B. Exhibit B: Novelty Statement

'5469' is most similar to 'Plainsman V'. '5469' is susceptible to Soil Borne Mosaic Virus and 'Plainsman V' is resistant.



11. HEAD:

- ☐ 2 Density: 1 = LAX 2 = DENSE ☐ 4 Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE
4 = OTHER (Specify) fusiform
- ☐ 4 Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED
- ☐ 5 Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED
5 = BROWN 6 = BLACK 7 = OTHER (Specify) _____

☐ 0 ☐ 8 CM. LENGTH ☐ 1 ☐ 3 MM. WIDTH

12. GLUMES AT MATURITY:

- ☐ 2 Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.)
3 = LONG (CA. 9 mm.) ☐ 2 Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.)
3 = WIDE (CA. 4 mm.)
- ☐ 4 Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED
4 = SQUARE 5 = ELEVATED 6 = APICULATE ☐ 3 Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR:

- ☐ 1 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

- ☐ 1 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

- ☐ 1 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

- ☐ 1 Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL ☐ 1 Cheek: 1 = ROUNDED 2 = ANGULAR
- ☐ 1 Brush: 1 = SHORT 2 = MEDIUM 3 = LONG ☐ 1 Brush: 1 = NOT COLLARED 2 = COLLARED
- ☐ 4 Phenol reaction (See Instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN
4 = BROWN 5 = BLACK
- ☐ 3 Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) _____
- ☐ 0 ☐ 7 MM. LENGTH ☐ 0 ☐ 3 MM. WIDTH ☐ 3 ☐ 2 GM. PER 1000 SEEDS

17. SEED CREASE:

- ☐ 1 Width: 1 = 60% OR LESS OF KERNEL 'WINOKA'
2 = 80% OR LESS OF KERNEL 'CHRIS'
3 = NEARLY AS WIDE AS KERNEL 'LEMHI'
- ☐ 2 Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT'
2 = 35% OR LESS OF KERNEL 'CHRIS'
3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

- ☐ 2 STEM RUST (Races) ☐ 2 LEAF RUST (Races) ☐ 0 STRIPE RUST (Races) ☐ 0 LOOSE SMUT
- ☐ 0 POWDERY MILDEW ☐ 0 BUNT ☐ OTHER (Specify) _____

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

- ☐ 0 SAWFLY ☐ 0 APHID (Bydv.) ☐ 0 GREEN BUG ☐ 0 CEREAL LEAF BEETLE
- ☐ OTHER (Specify) _____ HESSIAN FLY RACES: ☐ GP ☐ A ☐ B ☐ C
☐ D ☐ E ☐ F ☐ G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

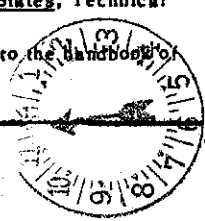
CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Plainsman V	Seed size	Plainsman V
Leaf size	Plainsman V	Seed shape	Plainsman V
Leaf color	Plainsman V	Coleoptile elongation	Plainsman V
Leaf carriage	Plainsman V	Seedling pigmentation	Plainsman V

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

- (a) L.W. Briggie and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.
- (b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the Handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

LEAF COLOR: Nickerson's or any recognized color fan should be used to determine the leaf color of the described variety.



14D. Exhibit D: Additional Description of '5469'.

'5469' is a common hard red winter wheat, Triticum aestivum L.

'5469' is most similar to 'Plainsman V' in flowering date. At Scott City, Kansas, when planted about October 1, average flowering is May 18 or 227 days after emergence. '5469' averages six days earlier than Tam 105. It is recognized that day length and seasonal temperatures influence flowering of varieties differentially.

'5469' has averaged 84 cm in height in Kansas, the same as Tam 105. Juvenile plant growth is prostrate. At booting, the plant color is bluegreen. The anther color is yellow.

A moderate waxy bloom occurs on the stem. Internodes are hollow. The flag leaves are recurved at booting and generally not twisted. Hairs on the first leaf sheath are absent. A moderate level of waxy bloom occurs on the sheath of the flag leaf.

Spikes of '5469' are mid dense, fusiform, awned, and brown at maturity. Spike width and length are variable with production level and population, averaging about 8 cm long and 13 mm wide.

Glumes of '5469' are medium in length and width. Shoulders are square and beaks are acuminate.

Coleoptile color of '5469' is white. Seedling anthocyanin is absent.

Kernels are red in color and ovate in shape, with rounded cheeks and mid deep crease. The brush is short and not collared. Kernels average 7 mm long and 3 mm wide and about 32 gm per 1000 seeds. The phenol reaction is brown.

'5469' has moderate resistance to leaf rust.

'5469' appears stable and uniform through the seed increase program. Tall offtypes occur at a rate of approximately .01% and white chaff offtypes occur at a rate of approximately .01%.

Experiment 1985

J. B. Christ

Quality Date 5630
5469

Date

Sample No.	Variety	Wheat				Triticum						Notes
		Protein %	Moisture %	Protein at 14% MC	Protein % Recovery	Protein %	Moisture %	Protein at 14% MC	Protein Absorption %	Flour gm	Mix Time	
501	7565	962	14.2	11.5	74.2	14.7	11.7	14.3	67.5	97.4		
502	5627	9621	13.6	11.8	71.9	14.3	12.2	14.0	66.6	98.0		
505		9612										
508	7549	9621	12.8	11.8	74.2	13.2	12.8	13.0	64.5	98.6		
509	7524	9618	12.4	12.0	74.2	12.3	12.4	12.1	63.6	98.2		
510	5677	962	13.6	11.8	74.0	13.8	12.4	13.5	64.4	98.2		
511	5630	9621	13.5	11.7	72.8	14.0	12.4	13.7	66.0	98.2		
513	6114	962	12.8	11.8	74.4	12.9	12.0	12.6	64.8	97.7		
515	5625	9621	12.8	11.9	72.2	13.1	12.4	12.9	64.8	98.2		
516	4469		12.2	11.8	71.9	11.8	12.2	11.6	63.0	98.0		
517	5809	967	11.6	12.2	65.2	12.2	13.4	12.1	62.5	99.3		
520	7571	9625	12.9	11.9	72.5	12.8	12.7	12.6	64.0	98.5		
521	B4	2478				11.0	12.8	10.8	61.2	98.6		
524	Tam107		11.0	12.0	12.4	10.6	12.8	10.5	60.8	98.6		
525	2471					11.0	13.2	10.9	60.9	99.1		
526	2480					11.2	13.3	11.1	60.8	99.2		
528	7570	9617				11.7	12.6	11.5	62.4	98.4		

5469

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ed Research

Planting Date

John K. Kistner

File G

8500196

it TOPENTRIES OF 1983

Harvest Date

w. No.	Source SNG No.	Cross Number - Pedigree	FLOUR		Abs M.	Time	THERM RATING	1982 EVALU ATION	1983 EVALU ATION	Test W+		
			PROTEIN ON Wt	% F Recovery								
1	L28319	41685	12.3	74	62	2 1/4	4		Q/L	60		
2	L28340	56667	14.2	76	70	4 1/2	1	S*P	S	57		
3	L28345	56677	12.4	76	62	3 1/2	1	S*P	S	59		
4	34-73	5625	14.3	74	62	4	2	S**P	S	58		
5	L28313	5627	15.6	73	66	3	4		S	59		
6	28-73	5630	14.3	77	65	3 1/8	3	S*P	S	57		
7	24-73	5629	16.8	71	69	4 1/2	2		S	59		
8	31-72	5559	15.4	73	65	4 3/8	1		S	59		
9	L28324	6520	13.2	78	62	1 1/4	5	U/L	U	58		
10	L28325	6538	12.9	74	62	1 1/4	5	U/L	U	60		
11	L28320	5221	12.6	69	65	4 1/4	1		S	55		
12												
13												
14	57-2	7584	15.0	74	65	4 3/4	1	S*P	S	61		
15	50-4	7586	14.6	75	61	5 1/2	1	S*P	Q/L	61		
16	52-2	7579	14.4	74	66	5 3/8	2		Q/L	59		
17	43-11	7551	14.5	74	64	3 1/4	3.5		S	59		
18	47-13	7553	16.1	71	66	2 3/4	3		Q/L	59		
19	62-3	6114	14.8	75	64	4	1	S*	S	59		
20	73-2	6119	13.6	76	59	4 3/4	1	Q/L*	S	60		
21												
22												
23	83-50	7473	10.7	70	68	5 1/4	1	Q/L	Q/L	58		
24	SC83	7412	13.6	72	67	3 1/4	3.5	S	S	59		
25	SC83	7413	12.4	72	67	3 1/4	3	S	S	61		
26	SC83	7444	13.9	75	64	4 3/4	1	S*P	S	61		
27	83-27	7472	14.2	73	64	4 3/4	1	SQ/L	S	60		
28	SC83	7392	13.7	73	64	3 3/4	3		S	59		
29	SC83	6000	13.1	73	63	3 3/4	2	Q/L	S	60		
30	L28333	6002	14.5	74	64	3 3/4	2		S	57		
31	93-22	6004	14.2	74	67	4 1/4	1		S	59		
32												
33	24-63	TAM 105	11.5	73	65	3 1/4	1	S	S	58		
34	30-69	NEWTON	11.9	67	66	4 1/4	1.5	S	S	57		
35	30-75	BOUNTY 100	11.9	70	67	2 1/2	2.5			56		
36												
37												
38		S = SATISFACTORY										
39		Q = QUESTIONABLE										
40		U = UNSATISFACTORY										
41		L = LONG MIXING TIME										
42		S = SHORT MIXING TIME										
43		* = 1% GREATER PROTEIN THAN THE CONTROL										
44		P = MOST PROMISING LINES										
45												
46												
47												
48												
49												
50												

Ratings from Merle Shogren
K-State

Seed Research

Planting Date

gt. Schriest

8500196

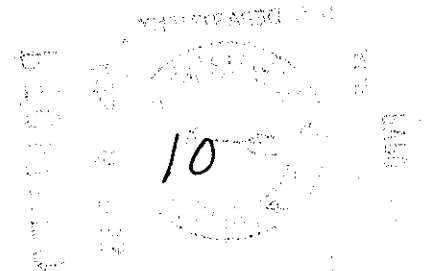
Test Top 86 ENTRIES - FOR
BAKE

Harvest Date

Row. No.	Source No.	Cross Number - Pedigree	%P GRAY (14% M)	% REDUCED	% F1 FROST	% F1 MATURE	19% M	ABS	Min Time	LOAF Vol	Grains
1	57-18	4685	15.7	73	13.6	15.0	13.8	64	2 1/4	1006	2
2	74-18	5221	14.3	73	14.4	15.2	14.6	67	3 1/4	1069	3
3	70-17	5221	17.7	68	18.2	14.2	18.2	69	2 3/4	1262	3
4	59-17	5559	17.2	70	17.2	14.7	17.3	65	3 1/2	1201	3.5
5	34-73	5625	15.7	69	13.7	15.0	13.9	63	3 1/2	1064	2
6	77-8	5627	16.3	70	15.4	15.1	15.1	66	2 1/2	1172	2.5
7	58-9	5630	16.8	68	16.6	14.7	16.7	65	2 3/8	1122	3.5
8	45-4	5667	15.5	72	15.2	15.0	15.4	72	4	1136	2.5
9	43-2	5677	15.3	76	13.5	15.2	15.7	65	3 5/8	916	3.5
10	34-72	6520	14.2	74	12.8	15.2	13.2	58	1 1/4	821	3
11	30-68	6538	14.2	72	12.4	14.8	12.5	58	1 1/4	808	3
12											
13	60-8	5874	15.5	71	14.6	15.0	14.8	67	1	746	2.5
14	72-2	6114	15.4	72	14.5	14.8	14.6	65	3 3/4	1086	1.5
15	38-4	6119	14.7	74	14.2	15.0	14.4	63	4	1074	2.5
16	58-12	7551	15.6	72	15.4	15.0	15.6	65	3	1028	3
17	65-12	7553	16.8	74	16.5	15.2	16.7	67	2 3/8	1084	2.5
18	58-4	7579	16.3	74	15.2	15.2	15.4	68	5	1034	2
19	44-3	7584	16.0	72	14.8	14.8	14.7	66	4 7/8	1117	3.5
20	50-4	7586	15.5	74	15.0	15.2	15.2	63	5 1/2	1071	3.5
21											
22	93-44	6000	15.3	72	14.1	15.2	14.3	62	3 1/8	1203	2
23	83-22	6002	15.6	72	14.8	14.7	14.9	64	3 1/2	1128	2
24	93-22	6004	15.4	70	14.8	15.0	15.0	68	4	1183	1.5
25	83-34	7392	14.9	68	14.6	14.4	14.7	65	3 1/2	1147	2.5
26	93-28	7412	15.0	70	13.8	14.8	13.7	68	3	1200	2
27	83-33	7413	15.0	75	14.0	15.2	14.2	67	3 1/8	1038	3
28	93-16	7444	15.0	66	14.1	14.8	14.2	65	4 3/8	1201	1.5
29	83-27	7472	15.4	72	14.5	14.7	14.6	66	4 1/4	1208	2.5
30	23-50	7473	12.4	68	11.2	15.8	11.4	62	5 1/2	878	2
31											
32	35-70	Tan 105	12.5	72	11.8	15.0	11.9	63	3	853	2.5
33	25-71	NEWTON	13.3	70	11.8	15.4	12.0	65	3 3/4	994	2
34											
35	50-18	PLX	17.9	74	17.7	14.9	17.9	71	3 1/8	1187	2
36	35-67	5210	14.8	70	14.2	15.1	14.4	67	2 3/4	1154	2.5
37	29-69	5466	16.4	69	16.0	15.0	16.2	72	2 3/8	1157	1.5
38	72-8	5474	18.1	74	17.7	14.8	18.1	74	3 1/4	1274	1.5
39	71-17	5651	17.9	77	18.0	16.1	18.1	73	3 7/8	1548	1
40	62-10	5679	15.0	76	14.7	15.2	14.7	67	3 7/8	1042	2
41	71-6	5685	14.9	72	14.6	15.2	14.8	66	4 1/2	1241	1
42	58-3	5686	14.5	74	14.0	15.2	14.2	66	4	1182	2.5
43	51-5	5698	15.1	71	13.8	15.2	14.0	64	4 1/2	1141	3
44	41-9	5733	16.0	74	14.7	14.7	14.8	68	4 1/2	1193	1
45	55-13	5809	14.3	64	13.4	15.1	13.1	65	3 1/4	1146	1
46	48-4	6092	14.6	69	14.2	14.7	14.3	66	4 3/4	785	1.5
47	79-3	6102	16.0	74	14.7	15.2	15.1	68	4	1144	1.5
48	55-3	6110	16.0	75	16.2	14.6	16.3	68	3 3/8	1127	3
49											

14E. Exhibit E: Statement of Ownership

The Seed Research program is funded by Agrigenetics Research Associates Limited, giving them full rights to all patentable material emerging from the program.



ASSIGNMENT

WHEREAS WE, AGRIGENETICS RESEARCH ASSOCIATES LIMITED, (herein called "ASSIGNOR"), a limited partnership organized and existing under the laws of the State of Colorado, having a principal place of business at c/o Agrigenetics Research Corporation, 29400 Lakeland Boulevard, Wickliffe Ohio 44092, are owners of the wheat variety 5469, for which we have executed an application for a Plant Variety Protection (PVP) Certificate, Serial No. 8500196;

WHEREAS, LUBRIZOL GENETICS, INC. (herein called "ASSIGNEE"), a corporation organized and existing under the laws of the State of Nevada having a principal place of business at 29400 Lakeland Boulevard, Wickliffe, Ohio, is the owner of said Plant Variety Protection application by exercise of its option to acquire all research assets of ASSIGNOR in December of 1985; and

WHEREAS, ASSIGNEE wishes to record its title to said Plant Variety Protection application, by means of recordation of this document evidencing its legal title thereto;

NOW, THEREFORE, in consideration of the premises and the sum of One Dollar (\$1.00) to us in hand paid, and other good and valuable consideration the receipt of which is hereby acknowledged, we the said ASSIGNOR, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said variety, and the said Plant Variety Protection application;

AND WE HEREBY authorize and request the United States Department of Agriculture to issue the PVP Certificate for said variety to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument;

AND WE HEREBY covenant and agree that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith;

AND WE HEREBY further covenant and agree that we will communicate to the said ASSIGNEE, its successors, legal representatives and assigns, any facts known to us respecting said variety, and testify in any legal proceeding, sign all lawful papers, execute all applications, make all rightful oaths, and generally do everything possible to aid the said ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper protection for said variety.

IN TESTIMONY WHEREOF, we hereunto set our hands and seals the day and year set opposite our signatures.

AGRIGENETICS RESEARCH ASSOCIATES LIMITED

Dated: Nov 3, 1988


BRUCE H. GRASSER, President